



17082-081001 / 24736-2073

SEQUENCE LISTING

<110> van den Boom, Dirk

Böcker, Sebastian

<120> FRAGMENTATION-BASED METHODS AND SYSTEMS
FOR SEQUENCE VARIATION DETECTION AND DISCOVERY

<130> 24736-2073

<140> 10/723,365

<141> 2003-11-26

<150> US 60/429,895

<151> 2002-11-27

<160> 85

<170> FastSEQ for Windows Version 4.0

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<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Renin cleavage site

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<210> 2

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<223> Factor Xa cleavage site

<220>

<221> VARIANT

<222> 5

<223> Xaa = Any Amino Acid Except Pro or Arg

<400> 2

Ile Glu Gly Arg Xaa

1

5

<210> 3

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Factor Xa cleavage site

<220>

<221> VARIANT

<222> 5

<223> Xaa = Any Amino Acid Except Pro or Arg

<400> 3
 Ile Asp Gly Arg Xaa
 1 5

<210> 4
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 <212> PRT
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<220>
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<220>
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 <222> 5
 <223> Xaa = Any Amino Acid Except Pro or Arg

<400> 4
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 1 5

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<220>
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 <222> 2, 5
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 1 5

<210> 6
 <211> 49
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Forward primer for base-specific cleavage

<400> 6
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<210> 7
 <211> 28
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Reverse primer for base-specific cleavage

<400> 7
 aggaagagag cgcctcggca aagtacac 28

<210> 8
 <211> 340

<212> DNA
 <213> Artificial Sequence

<220>
 <223> Amplicon for base-specific cleavage

<400> 8
 gggagaaggc tccccagcaa gacggacttc ttcaaaaaca tcatgaactt catagacatt 60
 gtggccatca ttccttattt catcacgctg ggcaccgaga tagctgagca ggaaggaaac 120
 cagaagggcg agcaggccac ctccctggcc atcctcaggg tcatccgctt ggtaaggggtt 180
 tttagaatct tcaagctctc ccgccactct aagggcctcc agatcctggg ccagaccctc 240
 aaagctagta tgagagagct agggctgctc atctttttcc tcttcacggtt ggatcatcctg 300
 ttttctagtg cagtgtactt tgccgaggcg ctctcttcct 340

<210> 9
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Forward primer for partial cleavage

<220>
 <221> modified_base
 <222> 1
 <223> Biotinylated

<400> 9
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<210> 10
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Reverse primer for partial cleavage

<400> 10
 agcggataac aatttcacac agg 23

<210> 11
 <211> 117
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Amplicon for partial cleavage

<400> 11
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 cagctccgag tccatccaga gcttcctgca gtcacctgtg tgaaattggt atccgct 117

<210> 12
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Reference sequence

<220>
 <221> misc_feature
 <222> 11
 <223> n = C or A

<220>
 <221> misc_feature
 <222> 1, 2, 3, 8, 9, 10, 12, 13, 14, 19, 20, 21
 <223> n = A,T,C or G

<400> 12
 nnnactgnnn nnnntgacnn n

21

<210> 13
 <211> 583
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> CETP Amplicon

<400> 13
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 gggaaactta gtgaatggca aggctgggtt tgagcccagc tctattgccc ccaaagataa 120
 ggctccattc cctgctccat ttcccaggca tagggacttg tagggggctg gaaccccagg 180
 atcaactctg ggctcagagg gccccagcaa taagtgactg ttgattactc ctgatcccaa 240
 agctgacttc aggcaagctc cttggaggct gcagcccctt cttgctatgc ccagtggcaa 300
 tgatgttcat aatcccactc ctcagtgcag ggttccacta agaaccatg atctcctacc 360
 tcaaattggac ctcatgcttt ctgagtaagc ctccctcagc tttctgggtc cctcactccc 420
 cccaccact gcaatgactt cttcaggcct tccctgccat cctcaaactc ccagctgccc 480
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 gagccaccaa cagaacttcc cccccacgtc gctgctccca gtc 583

<210> 14
 <211> 483
 <212> DNA
 <213> Mycobacterium abscessus

<300>
 <308> EMBL Accession No. AJ536038
 <309> 2003-01-03

<400> 14
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 gatgagcccg cggcctatca gcttgttggt ggggtaatgg cccaccaagg cgacgacggg 180
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 ggaggcagca gtgggggaata ttgcacaatg ggcgcaagcc tgatgcagcg acgcccgcgtg 300
 agggatgacg gccttcgggt tgtaaacctc tttcagtagg gacgaagcga aagtgacggg 360
 acctacagaa gaaggaccgg ccaactacgt gccagcagcc gcggtaatat gtagggtccg 420
 agcgttgtcc ggaattactg ggcgtaaaga gctcgtaggg ggtttgtcgc gttgttcgtg 480
 aaa 483

<210> 15
 <211> 495
 <212> DNA
 <213> Mycobacterium avium

<300>
 <308> EMBL Accession No. AJ536037
 <309> 2003-01-03

<400> 15
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 tctaataaccg gataggacct caagacgcat gtcttctggt ggaaagcttt tgcggtgtgg 120
 gatgggcccg cggcctatca gcttgttggt ggggtgacgg cctaccaagg cgacgacggg 180
 tagccggcct gagagggtgt ccggccacac tgggactgag atacggccca gactcctacg 240
 ggaggcagca gtgggggaata ttgcacaatg ggcgcaagcc tgatgcagcg acgcccgcgtg 300
 ggggatgacg gccttcgggt tgtaaacctc tttcaccatc gacgaagggtc cgggttttct 360
 cggattgacg gtagggtggag aagaagcacc ggccaactac gtgccagcag ccgcggtaat 420

acgtagggtg cgagcgttgt ccggaattac tgggcgtaaa gagctcgtag gtggtttgtc 480
gcgttggttcg tgaaa 495

<210> 16
<211> 495
<212> DNA
<213> Mycobacterium celatum

<300>
<308> EMBL Accession No. AJ536040
<309> 2003-01-03

<400> 16
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gatgggcccgc cggcctatca gcttggttggg ggggtgatgg cctaccaagg cgacgacggg 180
tagccggcct gagaggggtgt ccggccacac tgggactgag atacggccca gactcctacg 240
ggaggcagca gtggggaata ttgcacaatg ggcgcaagcc tgatgcagcg acgccgcgtg 300
ggggatgacg gccttcgggt tgtaaacctc tttcaccatc gacgaagctg ccggttttcc 360
ggtggtgacg gtaggtggag aagaagcacc ggccaactac gtgccagcag ccgcggtaat 420
acgtagggtg cgagcgttgt ccggaattac tgggcgtaaa gagctcgtag gtggtttgtc 480
gcgttggttcg tgaaa 495

<210> 17
<211> 483
<212> DNA
<213> Mycobacterium fortuitum

<300>
<308> EMBL Accession No. AJ536039
<309> 2003-01-03

<400> 17
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tctaataaccg aatatgacca cgcgcttcat ggtgtgtggg ggaaagcttt tgcgggtgtgg 120
gatgggcccgc cggcctatca gcttggttggg ggggtaatgg cctaccaagg cgacgacggg 180
tagccggcct gagaggggtga ccggccacac tgggactgag atacggccca gactcctacg 240
ggaggcagca gtggggaata ttgcacaatg ggcgcaagcc tgatgcagcg acgccgcgtg 300
agggatgacg gccttcgggt tgtaaacctc tttcaatagg gacgaagcgc aagtgcagggt 360
acctatagaa gaaggaccgg ccaactacgt gccagcagcc gcggtataac gtaggggtccg 420
agcgttggtcc ggaattactg ggcgtaaaaga gctcgtagggt ggttttgtcgc gttgttctgtg 480
aaa 483

<210> 18
<211> 495
<212> DNA
<213> Mycobacterium gordonae

<300>
<308> EMBL Accession No. AJ536042
<309> 2003-01-03

<400> 18
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tctaataaccg aataggacca caggacacat gtcctgtggg ggaaagcttt tgcgggtgtgg 120
gatgggcccgc cggcctatca gcttggttggg ggggtgatgg cctaccaagg cgacgacggg 180
tagccggcct gagaggggtgt ccggccacac tgggactgag atacggccca gactcctacg 240
ggaggcagca gtggggaata ttgcacaatg ggcgaaagcc tgatgcagcg acgccgcgtg 300
ggggatgacg gccttcgggt tgtaaacctc tttcaccatc gacgaagggtc ccggttttct 360
cgggctgacg gtaggtggag aagaagcacc ggccaactac gtgccagcag ccgcggtaat 420
acgtagggtg cgagcgttgt ccggaattac tgggcgtaaa gagctcgtag gtggtttgtc 480
gcgttggttcg tgaaa 495

<210> 19
<211> 495

<212> DNA
 <213> *Mycobacterium intracellulare*

<300>
 <308> EMBL Accession No. AJ536036
 <309> 2003-01-03

<400> 19
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 gatgggcccg cggcctatca gcttggttggg ggggtgatgg cctaccaagg cgacgacggg 180
 tagccggcct gagaggggtg ccggccacac tgggactgag atacggccca gactcctacg 240
 ggaggcagca gtggggaata ttgcacaatg ggcgcaagcc tgatgcagcg acgccgcgtg 300
 ggggatgacg gccttcgggt tgtaaaccctc tttcaccatc gacgaagggtc cgggttttct 360
 cggattgacg gtaggtggag aagaagcacc ggccaactac gtgccagcag ccgcggtaat 420
 acgtagggtg cgagcgttgt ccggaattac tgggcgtaaa gagctcgtag gtggtttgtc 480
 gcgttggttcg tgaaa 495

<210> 20
 <211> 495
 <212> DNA
 <213> *Mycobacterium kansasii*

<300>
 <308> EMBL Accession No. AJ536035
 <309> 2003-01-03

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 gatgggcccg cggcctatca gcttggttggg ggggtgacgg cctaccaagg cgacgacggg 180
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 ggaggcagca gtggggaata ttgcacaatg ggcgcaagcc tgatgcagcg acgccgcgtg 300
 ggggatgacg gccttcgggt tgtaaaccctc tttcaccatc gacgaagggtc cgggttttct 360
 cggattgacg gtaggtggag aagaagcacc ggccaactac gtgccagcag ccgcggtaat 420
 acgtagggtg cgagcgttgt ccggaattac tgggcgtaaa gagctcgtag gtggtttgtc 480
 gcgttggttcg tgaaa 495

<210> 21
 <211> 495
 <212> DNA
 <213> *Mycobacterium marinum*

<300>
 <308> EMBL Accession No. AJ536032
 <309> 2003-01-03

<400> 21
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 tctaataaccg gataggacca cgggattcat gtccgtgtgg ggaaagcttt tgcggtgtgg 120
 gatgggcccg cggcctatca gcttggttggg ggggtaacgg cctaccaagg cgacgacggg 180
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 ggaggcagca gtggggaata ttgcacaatg ggcgcaagcc tgatgcagcg acgccgcgtg 300
 ggggatgacg gccttcgggt tgtaaaccctc tttcaccatc gacgaagggtt cgggttttct 360
 cggattgacg gtaggtggag aagaagcacc ggccaactac gtgccagcag ccgcggtaat 420
 acgtagggtg cgagcgttgt ccggaattac tgggcgtaaa gagctcgtag gtggtttgtc 480
 gcgttggttcg tgaaa 495

<210> 22
 <211> 492
 <212> DNA
 <213> *Mycobacterium scrofulaceum*

<300>
 <308> EMBL Accession No. AJ536034

<309> 2003-01-03

<400> 22

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acgggtgagt aacacgtggg caatctgccc tgcacttcgg gataagcctg ggaaactggg 60
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gatgggcccc cgccctatca gctagttggt ggggtgatgg cctaccaagg cgacgacggg 180
tagccggcct gagaggggtg ccggccacac tgggactgag atacggccca gactcctacg 240
ggaggcagca gtggggaata ttgcacaatg ggcgcaagcc tgatgcagcg acgccgcgtg 300
ggggatgacg gccttcgggt tgtaaacctc tttcaccatc gacgaaggct cactttgtgg 360
gttgacggta ggtggagaag aagcaccggc caactacgtg ccagcagccg cggtaatacg 420
taggggtgca gcgttggtcc gaattactgg gcgtaaagag ctctaggtg gtttgcgcg 480
ttgttcgtga aa 492

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<210> 23

<211> 485

<212> DNA

<213> *Mycobacterium smegmatis*

<300>

<308> EMBL Accession No. AJ536041

<309> 2003-01-03

<400> 23

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tgagggatga cggccttcgg gttgtaaacc tctttcagca cagacgaagc gcaagtgcg 360
gtatgtgcag aagaaggacc ggccaactac gtgccagcag ccgcggtaac acgtagggtc 420
cgagcgttgt ccggaattac tgggcgtaaa gagctcgtag gtggtttgtc gcgttggttcg 480
tgaaa 485

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<210> 24

<211> 497

<212> DNA

<213> *Mycobacterium tuberculosis*

<300>

<308> EMBL Accession No. AJ536031

<309> 2003-01-03

<400> 24

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tcgcgttggt cgtgaaa 497

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<210> 25

<211> 499

<212> DNA

<213> *Mycobacterium xenopi*

<300>

<308> EMBL Accession No. AJ536033

<309> 2003-01-03

<400> 25

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tctaataacc gataggacca ttctgcatgt gtggggtggg ggaaagtgtt tggtagcggt 120

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gtgggatggg cccgcggcct atcagcttgt tgggtggggtg atggcctacc aaggcgacga 180
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cgtgggggat gacggccttc ggggttgtaaa cccctttcag cctcgacgaa gctgcggggt 360
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tgtcgcgttg ttcgtggaa

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<210> 26
<211> 492
<212> DNA
<213> Mycobacterium paraffinicum

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gttgacggta ggtggagaag aagcaccggc caactacgtg ccagcagccg cggtaatatg 420
taggggtgca gcgttggtcc gaattactgg gcgtaaaagag ctctaggtg gtttgtcgcg 480
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<210> 27
<211> 483
<212> DNA
<213> Mycobacterium interjectum

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<400> 27
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gatgggcccc cggcctatca gctagtgtgt ggggtgacgg cctaccaagg cgacgacggg 180
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acctgcagaa gaagcaccgg ccaactacgt gccagcagcc gcggtaatat gtaggggtgc 420
agcgttggtc ggaattactg ggcgtaaaag gctcgtaggt ggtttgtcgc gttgttcgtg 480
aaa

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<210> 28
<211> 484
<212> DNA
<213> Mycobacterium aurum

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gatgggcccc cggcctatca gcttggtggt gaggttacgg ctaccaagg cgacgacggg 180
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acctggagaa gaaggaccgg ccaactacgt gccagcagcc gcggtaaata ctaggggtgc 420
gagcgttggt cggaattact gggcgtaaaag agctcgtagg tggtttgtcg cgttggttcgt 480
gaaa

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<210> 29
<211> 1542
<212> DNA
<213> Escherichia coli

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<300>
<308> GenBank Accession No. AE000460
<309> 2003-01-03

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<400> 29
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tgtctgggaa actgcctgat ggagggggat aactactgga aacggtagct aataccgcat 180
aacgtcgcaa gaccaaagag ggggaccttc gggcctcttg ccatcggatg tgcccagatg 240
ggattagcta gtaggtgggg taacgggtca cctaggcgac gatccctagc tggctctgaga 300
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ggaatattgc acaatgggag caagcctgat gcagccatgc cgcgtgtatg aagaaggcct 420
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gacgttacct gcagaagaag caccggctaa ctccgtgcca gcagccgcgg taatacggag 540
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gatgtgaaat ccccgggctc aacctgggaa ctgcatctga tactggcaag cttgagcttc 660
gtagaggggg gtagaattcc aggtgtagcg gtgaaatgcg tagagatctg gaggaatacc 720
gggtggcgaag gcggccccct ggacgaagac tgacgctcag gtgcgaaagc gtggggagca 780
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aatgttgggt taagtccgcg aacgagcgca acccttatcc tttgttgcca gcggtccggc 1140
cggaactca aaggagactg ccagtataaa actggaggaa ggtggggatg acgtcaagtc 1200
atcatggccc ttacgaccag ggctacacac gtgctacaat ggcgcataca aagagaagcg 1260
acctcgcgag agcaagcgga cctcataaag tgcgtcgtag tccggatttg agtctgcaac 1320
tcgactccat gaagtcggaa tcgctagtaa tcgtggatca gaatgccacg gtgaatacgt 1380
tcccgggcct tgtacacacc gcccgtcaca ccatgggagt gggttgcaaa agaagtaggt 1440
agcttaacct tcgggagggc gcttaccact ttgtgattca tgactggggg gaagtcgtaa 1500
caaggtaacc gtaggggaac ctgcgggttg atcacctcct ta 1542

```

```

<210> 30
<211> 340
<212> DNA
<213> Bordetella avium

```

```

<400> 30
agagtttgat cctggctcag attgaacgct ggcgggatgc tttacacatg caagtcgaac 60
ggcagcacgg acttcggtct ggtggcgagt ggcgaacggg tgagtaaatgt atcggaacgt 120
gcctagtagc gggggataac tacgcgaaag cgtagctaata accgcatacg ccctacgggg 180
gaaagcgggg gaccttcggg cctcgacta tttagagcggc cgatatcgga ttagctagtt 240
gggtggggtta cggctcacca aggcgacgat ccgtagctgg tttgagagga cgaccagcca 300
cactgggact gagacacggc ccagactcct acgggaggca 340

```

```

<210> 31
<211> 339
<212> DNA
<213> Bordetella trematum

```

```

<400> 31
agagtttgat cctggctcag attgaacgct ggcgggatgc tttacacatg caagtcggac 60
ggcagcacgg acttcggtct ggtggcgagt ggcgaacggg tgagtaaatgt atcggaacgt 120
gcccagtagc gggggataac tacgcgaaag cgtggctaata accgcatacg ccctacgggg 180
aaagcggggg accttcgggg ctcgcactat tggagcggcc gatatcggat tagctagttg 240
gtggggtaac ggctcaccaa ggcgacgat cgtagctggg ttgagaggac gaccagccac 300
actgggactg agacacggcc cagactccta cgggaggca 339

```

```

<210> 32
<211> 1496
<212> DNA
<213> Bordetella petrii

```

```

<220>
<221> misc_feature
<222> 821
<223> n = A,T,C or G
<300>

```

<308> GenBank Accession No. AJ249861

<309> 2003-01-03

<400> 32

```

cgctagcggg atgctttaca catgcaagtc gaacggcgag cgggacttcg gtctggcggc 60
gagtgggcgaa cgggtgagta atgtatcgga acgtgcccag tagcggggga taactacgcg 120
aaagcttagc taataccgca tacgccctac gggggaaagc gggggacctt cgggcctcgc 180
actattggag cggccgatat cggattagct agttggtggg gtaaaggcct accaaggcga 240
cgatccgtag ctggtttgag aggacgacca gccacactgg gactgagaca cggcccagac 300
tcctacggga ggcagcagtg gggaaatttg gacaatgggg gcaaccctga tccagccatc 360
ccgcgtgtgc gatgaaggcc ttcgggttgt aaagcacttt tggcaggaaa gaaacggctc 420
tggctaatac ctggggcaac tgacgggtacc tgcagaataa gcaccggcta actacgtgcc 480
agcagccgcg gtaatacgta ggggtgcaagc gttaatcgga attactgggc gtaaagcgtg 540
cgcaggcggg tcggaaagaa agatgtgaaa tcccagggct taaccttggg actgcatttt 600
taactaccgg gctagagtgt gtcagaggga ggtggaattc cgcgtgtagc agtgaaatgc 660
gtagatatgc ggaggaacac cgatggcgaa ggcagcctcc tgggataaca ctgacgctca 720
tgcacgaaag cgtggggagc aaacaggatt agataccctg gtagtccacg ccctaaacga 780
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ggtggatgat ttggattaat tccatgcaac ttaacctacc ttgacatgtc 960
tggaatgccg aagagatttg gcagtgtctc caagagaacc ggaacacagg tgctgcatgg 1020
ctgtcgtcag ctcgtgtcgt gagatgttgg gttaagtccc gcaacgagcg caacccttgt 1080
cattagttgc tacgaaaggg cactctaatt agactgccgg tgacaaaccg gaggaagggtg 1140
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gtcgcggtga atacgttccc gggctcttga cacaccgccc gtcacaccat gggagtgagg 1380
tttaccagaa gtagttagcc taaccgcaag gggggcgatt accacggtag gattcatgac 1440
tgggggtgaag tcgtaacaag gtagccgtat cgggaagggtg ggttgatca cctcct 1496

```

<210> 33

<211> 363

<212> DNA

<213> Bordetella strain SHA-1

<400> 33

```

agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
gcgagtgtct tttttcgcaa gagagcagac acttgagtgg cgaacgggtg agtaacacgt 120
gagcgactca ccttcgggtg ggggataact gtccgaaagg gcggttaata cctcgtatgc 180
tccttgaccg ccgggtcagt gaggaagtg ggcttcgtaa gaagctcatg ccagaagaga 240
ggctcgcgcc ccatcagcta gttggcgagg taacggctca ccaaggcaat gacgggtagc 300
tggctctgaga ggatggctcag ccactctggg actgagacac ggcccagact cctacgggag 360
gca

```

<210> 34

<211> 363

<212> DNA

<213> Bordetella strain SHA-110

<400> 34

```

agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaacacatg caagtcgaac 60
gcgagtgtct tttttcgtaa gaaagggtgac acttgagtgg cgaacgggtg agtaacacgt 120
gagtaactca ccttcgggtg ggggataact gtccgaaagg gtggctaata ccccatatgc 180
tccttgaccg ccgggtcagt gagaaaagtg ggcttcgtaa gaagctcaca ccagaagaga 240
ggctcgcgcc ccatcagctg gttggcgagg taatggctca ccaaggcaat gacgggtagc 300
tggctctgaga ggatggctcag ccacactggg actgagacac ggcccagact cctacgggag 360
gca

```

<210> 35

<211> 343

<212> DNA

<213> Bordetella strain B1-10

<400> 35

```

agagtttgat catggctcag gatgaacgct ggcggcgtgc ttaatacatg caagtcgaac 60

```

```

ggagggaggt agtaatactt tccttagtgg cgaacgggtg agaaacgcgt tggtagacctg 120
ccccgaagag cgggacaaca gaccgaaagg tttgctaata ccgcatgagc tcttgctggc 180
tagagtggca agaggaaagg ccgaaaggcg ctttgggagg ggcctgcgtc ccatcagcta 240
gttggcgggg taacagccca ccaaggcgat gacgggtagg ggacctgaga gggtagacccc 300
ccacaatgga actgaaacac ggtccataca cctacgggtg gca 343

```

```

<210> 36
<211> 342
<212> DNA
<213> Bordetella strain B1-12

```

```

<400> 36
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac 60
gggagatgta gcgatatgtc tccagtggcg aacgggtgag taacgcgttg gtgacctgcc 120
ccgaagagcg ggataacaga ccgaaaggac tgctaatacc gcatgagctc tcggcagtta 180
gaggggcccga gaggaaaggc cgaaaggcgc tttgggaggg ggcctgcgtc catcagctag 240
ttggcgaggt aagagctcac caaggcgatg acgggtaggg gacctgagag ggtgaccccc 300
cacaatggaa ctgaaacacg gtccatacac ctacgggtgg ca 342

```

```

<210> 37
<211> 342
<212> DNA
<213> Bordetella strain B6-52

```

```

<400> 37
agagtttgat catggctcag attgaacgct ggcggcgtgc tttacacatg caagtcgaac 60
ggcagcacgg gcttcggcct ggtggcgagt ggcgaaacgg tgagtaatgc atcggaacgt 120
gcccatttgt gggggataac gcggcgaaag tcgcgctaata accgcatacg ccctgagggg 180
gaaagcgggg gattcttcgg agcctcgcgc aattggagcg gccgatgtca gattagctag 240
ttggtagggt aaaggcctac caaggcgacg atctgtagcg ggtctgagag gatgatccgc 300
cacactggga ctgagacacg gcccagactc ctacgggagg ca 342

```

```

<210> 38
<211> 342
<212> DNA
<213> Bordetella strain B6-60

```

```

<400> 38
agagtttgat catggctcag attgaacgct ggcggcgtgc tttgcacatg caagtcgaac 60
ggcagcacgg gcttcggcct ggtggcgagt ggcgaaacgg tgagtaatgc atcggaacgt 120
gcccatttgt gggggataac gcggcgaaag tcgcgctaata accgcatacg ccctgagggg 180
gaaagcgggg gattcttcgg aacctcgcgc aattggagcg gccgatgtca gattagctag 240
ttggtagggt aaaggcctac caaggcgacg atctgtagcg ggtctgagag gatgatccgc 300
cacactggga ctgagacacg gcccagactc ctacgggagg ca 342

```

```

<210> 39
<211> 20
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> Primer TPU1

```

```

<400> 39
agagtttgat cmtggctcag 20

```

```

<210> 40
<211> 20
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> Primer RTU8

```

```

<400> 40

```

aaggaggtga tccakccrca 20

<210> 41
 <211> 38
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer Myko109-T7

<400> 41
 gtaatacgac tcactatagg gacgggtgag taacacgt 38

<210> 42
 <211> 40
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer R259-SP6

<400> 42
 atttaggtga cactatagaa tttcacgaac aacgcgacaa 40

<210> 43
 <211> 418
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> IGF2/H19 Amplicon

<400> 43
 accatgcctg ctgctccctg cctgccagcg ccctgcacat actttgcaca tggctggggg 60
 ccagctgcgg gtccctgggg actcggatgg cacagagggc cccttcctgc caccatcacg 120
 gctcagacct cacgttcctg gagagtaggg gtgggggtgct gaggggcaga gggaaagtgc 180
 gcaaaccccc tgggtggggcg ggtgccagcc ccccaggccg attcccatcc agttgaccga 240
 gcttggtgctg gtcaccgcgg tttccgcagg acagagtccc cacagccgct gggcaccccg 300
 gtcccattcg cggccacttt cctgtctgaa gaccgcatgt tgccgggctg tgcttacggc 360
 tcgcggggcg actctactga caagcggtag gcggcctcac agactctccc aggcccg 418

<210> 44
 <211> 269
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> K-Ras Amplicon

<400> 44
 cgtccacaaa atgattctga attagctgta tcgtcaaggc actcttgctt acgccaccag 60
 ctccaactac cacaagttaa tattcagtca ttttcagcag gccttataat aaaaataatg 120
 aaaatgtgac tatattagaa catgtcacac ataagggtta tacactatca aatactccac 180
 cagtaccttt taatacaaac tcacctttat atgaaaaatt atttcaaaat accttacaaa 240
 attcaatcat gaaaattcca gttgactgc 269

<210> 45
 <211> 428
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Amplicon 1

<220>

<221> misc_feature

<222> 123

<223> n = T or C

<400> 45

```

gggaacatct tgctgctctc agagccagaa aatgctgaca gcctcatgct ggtggacttc 60
gagtacagca gttataacta taggtgagggc tggaaagatg gcttcccata gatctgttcc 120
canagggctc ttgaaaacag gccagctgcc cagggcattt ggggactgaa tgtccacctt 180
attctcccag gggctttgac attgggaacc atttttgtga gtgggtttat gattatactc 240
acgaggaatg gcctttctac aaagcaaggc ccacagacta cccactcaa gaacagcagg 300
tatgtgggcc agaggctggg gagcaggacc catcctgtga ggaaggaggg aggtggagtc 360
tggaaggaat ggccggaaag gatgttacct gggaaatact ccacagtctc cccaattcct 420
gactcttg                                     428

```

<210> 46

<211> 429

<212> DNA

<213> Artificial Sequence

<220>

<223> Amplicon 2

<220>

<221> misc_feature

<222> 174, 179

<223> n = T or G

<220>

<221> misc_feature

<222> 317

<223> n = C or T

<400> 46

```

cccactactc tgccttcctg ttcagtaact cttacttttg cctgaagtaa cagcatcttc 60
tactttctcca tctagagatt tttgtgtgtg tgccatcaag gttagcaaac tttatacgta 120
gcctaacact taaaaaatgc actcattatc ttaaacctaa taaattccag agtntattnt 180
ggttctcctc tggtgccctt cctaaaaaat gagctgaaga tgacagtatt tttctttaca 240
tgcttggtta tgacttttaa agttttatct aaataaatgt tgaagctcaa gtttaaagaa 300
gcgttgacaga ggcccanggt ctctgggtc ccggccacct gtccatattc cacatttgct 360
gactgtgctc cctgcactcc actcaagttg agagttcaaa tagtcttgaa ggggaatcag 420
cttcaggat                                     429

```

<210> 47

<211> 465

<212> DNA

<213> Artificial Sequence

<220>

<223> Amplicon 3

<220>

<221> misc_feature

<222> 285, 286

<223> n = G or A

<400> 47

```

ggaagtgggt ttggaggtga taactcacta tttttaggct agaacacaaa gaacaattag 60
tgaatttaag taagaaagtg gaagttatca actaatgtgc tattaataaat attattttta 120
gtaagaggca tctaggagt tacagaatgt ctacattcta cagaaatgtc ttcctctcaa 180
gtcttcagag agcaaaggct acagctacct aaagtgttcc cacttcaagc acagattgta 240
tgctgaaga ctacatacct tgcattatca accagttcag caagnncacc aaacaagaat 300
tcgtgagtggt ttctgaaatg ataaatacta aaagtcagca aaagaattat tgaagttata 360
attcctaata aaaagccatg gttataaaat atttaagttt tttgaaaaaa atcttaaaac 420
caccatttgc attgttttta tactactcaa ggctttccag agctc                                     465

```

<210> 48
 <211> 426
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Amplicon 4

<220>
 <221> misc_feature
 <222> 131
 <223> n = A or G

<400> 48
 tatgataggg aagatgcggc catcactggg atatttttcaa atcccaagga catcagagtg 60
 aagtgtcagt tgtcagatga ttttaaaagt tatgtcttca gagaaaaaaa gattcatttt 120
 ctcatttttaa nccaattaaa tattctgagt gagactaatc actcatttgc ctacgacctt 180
 ttagaaaagt tgttttggtg aaatactgta cgtacgctta atctaaattt gcattgacta 240
 tgttttagtg tattttataaa tgggtgaactc agtttctgaa attaaacttc ttatttgcaa 300
 ttttctagtg ctggcagaca ctggcttttt atttttagga taagaaaaca ggcatattct 360
 ttgtggtcca ttatctagag cccatacttg ggcagcattt gaaatttcac cttaacccca 420
 gacagg 426

<210> 49
 <211> 533
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Amplicon 5

<220>
 <221> misc_feature
 <222> 47, 50, 51, 52
 <223> n = A or G

<220>
 <221> misc_feature
 <222> 111, 135, 185, 359
 <223> n = T or C

<220>
 <221> misc_feature
 <222> 198
 <223> n = T or G

<220>
 <221> misc_feature
 <222> 253
 <223> n = C or A

<400> 49
 tgcacagggt ttgatctctg agatgtttta tactctctgg cttgganaan nnacagtcct 60
 gtagtatcaa gaccagacct tgtgtcccca gcccaaggct gccctgggcc nagggacagt 120
 atttgagagc ttcgntggca gttttgcgtt ggaatcacct ggtgcctccc tgtacgtcca 180
 cccancctgt gccaganc ccttcgcaag caccatatgc tgtagatcc tcgagcagcc 240
 ttgtgggaca gcnaccctgg ggctggatc accatttatg taagaaaaaa aagggaagtgc 300
 tggcccaggg tcccacagcc agcaagttgg agctgcactg cccaagcagg tcctttagnc 360
 agctctctgt tgtcccccaa gccctcagc cccccaggca gctctaaggg ctgagctgct 420
 gcaggattcc ttagagaagc tgaagggtt gggtcctcag ctctggccg gggcaagtct 480
 ggccaagcag catggcagcg atgaagtcca catgatcgaa ggggtggatgc tta 533

<210> 50
 <211> 422
 <212> DNA

<213> Artificial Sequence

<220>

<223> Amplicon 6

<220>

<221> misc_feature

<222> 131

<223> n = C or G

<400> 50

```

caaggcttga ctgaaggacc tcacccagag tcactatcag agctcgcctcc agcactctcc 60
ttcatggagc cccaggggtca gcagtggaga gggtcagagc acccccacaa ccccccacagc 120
gagatgacct nggctcgtct tgccctctgcc accagagctg tgactgtggg caagatatct 180
tacagcagga ccagtttctt gtccgaaggc agggctatta acaggaccta actcaggata 240
cttgtgtgga taaaatcatg tgtgaagagc ttttagggcc ttgcttctca aagagggggc 300
ccaggccatc agcacacctg gagtgtgcag ggggaagctc tcagccccac cccagccctc 360
tttacaagac ccccgcgtag cacctgtggc gtggcacctg tgtgcactcg tgttttcaaa 420
gc 422

```

<210> 51

<211> 411

<212> DNA

<213> Artificial Sequence

<220>

<223> Amplicon 7

<220>

<221> misc_feature

<222> 228, 230, 235, 236, 240, 243, 245

<223> n = A or T

<400> 51

```

atccctctgt ctctccacca ggaactagaa ttttgtgtat cactgcgctt atttttttct 60
tttagtttac cacatgtgta tgtatctata agtaatataa cgatctgttt tgcttctcta 120
tattgtgcca tatgtcgttt ttagcaactt gcttttagct gacgttctgt tttcaagatt 180
catccatggt gctgcataaa cctaacattc acttactggt gctggtnan aacannccan 240
cangngagca cagacatttg ggttgtttcc aagacatgta tcaatggcaa aaattaagat 300
gtctgacaaa accaagagtt ggagaggatg tggatggctt ggaattttat ctgctccttt 360
acaccctc tggaaaaact gtacaaacaa ttctgcaagg atttttccag a 411

```

<210> 52

<211> 445

<212> DNA

<213> Artificial Sequence

<220>

<223> Amplicon 8

<220>

<221> misc_feature

<222> 84

<223> n = C or G

<220>

<221> misc_feature

<222> 265, 269

<223> n = T or C

<400> 52

```

tagtgaaaag ggcacacagc tgtaactcca gacatctccc tattgcatgg atctgcactt 60
gactggcagc ctagacagaa ggantgctat ttgtcttttc tggctgacag ctgagcagga 120
ccagcgctgg ctgcaaccaa ggagcattgc ttcgcttgtc atacttctgc ttccaaacag 180
ccctcttttg tttgtgctgt gaagttccca taccgtctgc catctcagca tctcctctgg 240

```

```

ctgaacctcc ttcacagttt gtacnctang tttaaattagc tgttcaattc ctccaggaga 300
aaggactgtg gctattagtt cttagaagcc ccaaagagcc cagtatgggc ctaggcttgc 360
actaggatcc catgaagcta gctggctggc tgggtgggtg gatcagaccg gcaaaagcac 420
tgtaggagct tgaaacccag cagac                                     445

```

```

<210> 53
<211> 425
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> Amplicon 9

```

```

<220>
<221> misc_feature
<222> 136
<223> n = A or C

```

```

<220>
<221> misc_feature
<222> 385
<223> n = G or A

```

```

<400> 53
cctctccttc tctgcgtgac cttgggctgg gagccaccca ggaaatgttc tcgagaaatg 60
aggacttcaa ttccgaggtg gggagtgtca tctcctctct catgcctcag tttcccaatt 120
tatagacaag gtggngggag ccttcttgag gcccccttgg gctctgacat ttcattgaacc 180
ggtaacaccc ctcccactca gcatgcacct ggatgcccaa ggcgggtgtc tgggagaaaag 240
gtctgtctcc acagtgaaga ggccagggtg gcctccagcc tagggctggg gggcagggtc 300
ctcagtgcag agggctgagt gggctcttgt tcagacgggt ggtcaggagg aggatgggtc 360
agagacagtg agcacagagg gagngnattc ggtgccttga gtggcacctc atggaaagaa 420
gccct                                     425

```

```

<210> 54
<211> 424
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> Amplicon 10

```

```

<220>
<221> misc_feature
<222> 76
<223> n = C or G

```

```

<400> 54
aacctcctac gggcctttta tgagctgtcg cagactcacc ggggtaatgg catcccccaa 60
agctgtgggtg tgaccttggg caatccctgg ggcctctcac tcccatgctg aggtgggtca 120
gaccacagc gcctgacctc aggtcctctc tgggctgggc ctgggtcccag gtgctgggat 180
ttgcgatggg cctgcgggga acatctagat cagctggtct ctttaagggcc gcaacgatga 240
acaggcccca cctgtctctc tcacactgcc actggcagta cacaaggccc ttgcttattt 300
atattttctga caacctgtaa ctctgggcag gccgactgca gctgacccca gctactgcag 360
aaaatgaagc ccagacaaaag gagagggcc cactgctccc aagtgggtgga gctgttgttc 420
caat                                     424

```

```

<210> 55
<211> 393
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> Amplicon 2.1

```

```

<220>

```


<221> misc_feature

<222> 157

<223> n = T or A

<400> 55

```

agatgccct gacactgact caaggctcag agaaggcggg cacctgccta aggccacccg 60
gtaggcccaa ggtgtatcaa gactccatcc caggacctct gggccctggg ctgcaggcct 120
gggccctacc cactgattga ttggacctgt gcctccncca ggtgatggtc aagtggactt 180
tgaggagttt gtgacccttc tgggacccaa actctccacc tcagggatcc cagagaagtt 240
ccatggcacc gactttgata ctgtcttctg gaaggatatcc cctggctagt tgggacccag 300
ggctgtgcac actgtggagt tctgttctgg agccagtga tggctggggc cacactgtaa 360
aggggggatg accacctcag gcttgtgtcc act                                     393

```

<210> 56

<211> 499

<212> DNA

<213> Artificial Sequence

<220>

<223> Amplicon 2.2

<220>

<221> misc_feature

<222> 103

<223> n = T or G

<400> 56

```

gaacccatgt cctccacatc cacaagtctc caaagggttg gggattcctt gtgtgagctc 60
cagatcccaa tcctctgggtg gtccatgggtg ttgtcaatga cangtctctc cttgtcacc 120
cagtatgaaa atgaggagac ttacagggtg cgaacattcc agataggtag aggggagaaa 180
ctggtgaagg ccctgggttc agcctttctg ggtagaacca tctcctccta tgccacctgt 240
ttgggccccct cctgggactt tatcacctgt ccagacttca tggaggaact gtttaccagg 300
tgaatgtcca tccccccaa ctcacagtgg tgactgtctc cgactagctg tgtcttgagg 360
atgtcaccca agccctctga gcctgtttgc tcctttgtaa agcagtgaga tgaacctcat 420
agggttctta tgggaactaa atggcctaag gcatggcaag cagggtccaa gtgcctggct 480
ctgtgaaaag gctgctgag                                     499

```

<210> 57

<211> 399

<212> DNA

<213> Artificial Sequence

<220>

<223> Amplicon 2.3

<220>

<221> misc_feature

<222> 31

<223> n = C or G

<400> 57

```

ccaggacagc tgaggacatt ccagaccctc ncatctcctt cctggagcct cacaggcccc 60
cagagccccct gaaagggcag aaattgggtca gctcagcagc cactcacact ggatcttata 120
gaggttgctg gtttccttct tggacagcag ggtggagtgg gcatccttcc ggggatccac 180
tttgtgaaca aagaggggagc ggaaccagct gccttcattg tccttggaaat agaaactgca 240
ggacagagga gttgaggggg acgcgcggag gttgggggag ccccagcaat tccatccact 300
tggatgtcct gctccccctag accagtgacc cacatttctg ggaacagggc cacggagtcc 360
tgtggcagct ccagactgtg aaatgctatt ggagccagc                                     399

```

<210> 58

<211> 365

<212> DNA

<213> Artificial Sequence

<220>

<223> Amplicon 2.4

<220>

<221> misc_feature

<222> 211

<223> n = T or C

<400> 58

```

ggggtagcag agtagtcccc agaacagggc tgggctgcat cccacatcca gagaggtgtg 60
ctgagtggac actaacatac cttattgttt ttgagcttgt tcatgcagtc catgagggct 120
gggtagccac ctgagaatcg ccacaggtgc actgttgggg gtgagaggta taggtcagtg 180
agctgctggg acccccagca gatgacctcc ncaaggttgg ctaagtgggtg gggacggggg 240
aggcgggggtg gcctgggttcc ctgtagcagc aagactccct gagttccctc tgccttgggtg 300
gaagaccatg ctggggagggt gatgacccta gacacaagtc taggagacct ggatttgagc 360
tccag                                     365

```

<210> 59

<211> 390

<212> DNA

<213> Artificial Sequence

<220>

<223> Amplicon 2.5

<220>

<221> misc_feature

<222> 77

<223> n = A or G

<400> 59

```

aatgaaccaa gcagagcaca gagcacagga gcacgacgag gatggtgcaa ggcacccgcc 60
aaatcctctg ggctccntga ctaaagctga gggaggaagt agccatcagg gtcccttttg 120
tgccgtcttg tctcggcact ccttggagct gatcactctc ttgctccctg cctaggcccc 180
tctccagaag gcccgatgcc cctgggtggg ggcgaggacg aggatgcaga ggaggcagta 240
gagcttcttg aggcctcggc cccaaggcc gctctggagc ccaaggagtc caggagcccc 300
cagcaggttg gacccacatg gaggcctgca gaacctgagc tgtgaactgg caaccctggc 360
tctggggccg agtcaccttg cacaaggagg                                     390

```

<210> 60

<211> 396

<212> DNA

<213> Artificial Sequence

<220>

<223> Amplicon 2.6

<220>

<221> misc_feature

<222> 131

<223> n = A or G

<220>

<221> misc_feature

<222> 239

<223> n = G or C

<220>

<221> misc_feature

<222> 254

<223> n = C or A

<220>

<221> misc_feature

<222> 283

<223> n = A or C

```

<400> 60
cccatgacac tggcttacct tgtgccaggc agatggcagc cacacagtgt ccaccgggatg 60
gttgattttg aagcagagtt agcttgtcac ctgcctccct ttcccgggac aacagaagct 120
gacctctttg ntctcttgcg cagatgatga gtctccgggg ctctatgggt ttctgaatgt 180
catcgtccac tcagccactg gatttaagca gagttcaagt aagtactggg ttgggggagna 240
gggttgacgc ggcngagcca gggctctccac ccaggaagga ctnatcgggc aggggtgtggg 300
gaaacagggg ggttggttcag atgaccacgg gacacctttg accctggccg ctgtggagt 360
tttgtgctgg ttgatgcctt ctgggtgtgg aattgt 396

```

```

<210> 61
<211> 368
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> Amplicon 2.7

```

```

<220>
<221> misc_feature
<222> 100
<223> n = A or G

```

```

<400> 61
cagagagcaa aggtcacagc tacctaaagt gtttccactt caagcacaga ttgtatgcct 60
gaagactaca taccttgcac tatcaaccag ttcagcaagn gcaccaaaca agaattcgtg 120
agtggttctg aaatgataaa tactaaaagt cagcaaaaga attattgaag ttataattcc 180
taataaaaag ccatgggttat aaaatattta agttttttga aaaaaatctt aaaaccacca 240
tttgcatgtt ttttatacta ctcaaggctt tccagagctc cccaactccc ctcaattgtt 300
aatctttaac aagtcctgcc atctattcag aaatgattat tcttcctatt ttgagttggg 360
aaaccac 368

```

```

<210> 62
<211> 451
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> Amplicon 2.8

```

```

<220>
<221> misc_feature
<222> 228
<223> n = A or G

```

```

<220>
<221> misc_feature
<222> 341
<223> n = G or T

```

```

<400> 62
gatgtacacc actccctgcc tcccgtttta gaaatgaaga aaccatggct cagaggggtg 60
tggaggctca cacagcatca cagggcccga agtggaggag ctgggatatg gacacaggcc 120
cacctgcctt cagaccagac ccctgtgccc ccagccgccc caccaccac agaccccaga 180
gggaggacgt caggcgtcca ggctggcacc tttagcttgg gcaggccncc gcggatggca 240
tctgcaatgg caactgcacc cttggagcgc accaggcagt ccccaaaatt aatcacctcc 300
acctgcgcga aggtcttcaa ggtctgtgag ggggaagcaa nggtccagag tgagggtgca 360
gaccacacc cagccctcag caagccccgg gggcccaca cggtcacatc ccaagccagc 420
caccacacac tgcctcctc tgcaagtcac c 451

```

```

<210> 63
<211> 790
<212> DNA
<213> Artificial Sequence

```

```

<220>

```

<223> Amplicon 2.9

<220>

<221> misc_feature

<222> 300

<223> n = C or G

<220>

<221> misc_feature

<222> 696, 741

<223> n = C or T

<220>

<221> misc_feature

<222> 771

<223> n = A or T

<400> 63

ttagggaaga	agggccaaag	cactccttgt	agcactcacc	cctacccttc	caagccaccc	60
cagccggtgt	aggtaacctgt	cttcagcagc	atcgctctgg	actcagcttc	cgaggacctg	120
accagatctg	gtctgcgtgt	atcagctgta	tgtgttgggc	tctggaagct	aagaaacgtc	180
tgaaaagcac	tggggtcacg	gctgcctggc	tagctcggcc	gccctcaacc	ttaggcgtgg	240
atcgtaacct	cgggtcccaa	gttgccccgc	ccatccccag	ccatcacttc	ccggagcttn	300
agttcttcct	tcagaaatac	gaaacaacgt	gtcttgatg	tcagacctca	cacctctgc	360
agtgtgga	gtcccgagg	cctacggg	gccttcggc	ccgcccggg	tcagaaaaag	420
gcagccactg	gcttaagg	accaagaa	agcggagg	cggggctgc	gccaggctcc	480
ggacttccag	ccgggtccg	gttcccgcc	tgggctccc	aaaaccgc	agccccctcc	540
caccgcactt	atcctaccga	agcgttcaga	cctgccgcg	cttctgactc	gaatccgta	600
acctgataag	tccgaagcgt	tccagtgg	gcggggcctc	acgaaggcaa	cccttcgcgc	660
aacctatcag	aatccccct	agcaacgctg	tgccncccc	atatgggtcc	ggcctcccag	720
cctccctaag	cccttcccc	ntgggctccc	gccctgcgtg	ctagcgaggc	nggcattggc	780
agaacggact						790

<210> 64

<211> 496

<212> DNA

<213> Artificial Sequence

<220>

<223> Amplicon 2.10

<220>

<221> misc_feature

<222> 378

<223> n = T or G

<400> 64

cttgtgacct	tccaaggaaa	ggaaccagca	ctcatcaagg	tccactggg	caccaggtgc	60
tgggcttggc	gtgctgtgtg	ttatcccatt	tcagcttccc	agcaaccctc	caagtttagct	120
tcagccccca	ccccgcccc	attttacaga	aggaaaacac	aaggctcagg	aagtcagggtg	180
ccacccaagg	aaggctctac	ggctcaggga	ggagcccagg	tccaggctct	gggacctggg	240
tgggtggggc	gtgcagagcc	tgagctggga	cccagtgtg	aggttcagcg	gggcccagc	300
tgcagcacca	ctgccccagg	ctgaccgtac	tggggggccc	gctaacctct	gcctcctttc	360
cttctacctt	cccagggnaa	tgatgcggaa	gagcctaagg	gggtcaccag	cgaaggtagt	420
agtccccgcc	cctgccccgc	ctctcctttc	cccagggtc	tggcctcagg	gcctaccctc	480
accctctccc	cttccct					496

<210> 65

<211> 395

<212> DNA

<213> Artificial Sequence

<220>

<223> Amplicon 2.11

```

<220>
<221> misc_feature
<222> 137
<223> n = A or G

<400> 65
tagaaaggcc attcctcgtg agtataatca taaacccact cacaaaaatg gttcccaatg 60
tcaaagcccc tgggagaata aggtggacat tcagtcccca aatgccctgg gcagctggcc 120
tgttttcaag agccctntgg gaacagatct atgggaagcc atctttccag cctcacctat 180
agttataact gctgtactcg aagtccacca gcatgaggct gtcagcattt tctggctctg 240
agagcagcaa gatgttccct gggggaatgg ggtgagggtc tgctcactcc agagccctct 300
ggctctttcca tcttgggtta ggagactcag atgccttctc ctaccttctc ggatgtcatt 360
gtggcagaag acgactggcg atggggtaga ctcta 395

<210> 66
<211> 353
<212> DNA
<213> Artificial Sequence

<220>
<223> Amplicon 2.12

<220>
<221> misc_feature
<222> 249
<223> n = A or G

<400> 66
cattccttcc agactccacc tccctccttc ctcacaggat gggtcctgct cccagcctc 60
tggcccatat acctgctgtt cttgagtggg gtagtctgtg ggccttgctt tgtagaaagg 120
ccattcctcg tgagtataat cataaaccca ctcacaaaaa tggttcccaa tgtaaaagcc 180
cctgggagaa taagggtggac attcagtcct caaatgccct gggcagctgg cctgttttca 240
agagccctnt gggaacagat ctatgggaag ccatctttcc agcctcacct atagttataa 300
ctgctgtact cgaagtccac cagcatgagg ctgtcagcat tttctggctc tga 353

<210> 67
<211> 598
<212> DNA
<213> Artificial Sequence

<220>
<223> Amplicon 2.13

<220>
<221> misc_feature
<222> 80, 206, 295, 373, 400, 479
<223> n = A or G

<220>
<221> misc_feature
<222> 315, 317, 318
<223> n = A or T

<400> 67
ccatctgagc tatttcccca cctctctcta cggtttaagg gcccagcagg agggagggag 60
caatcagact caagcctggn tgcaaattccc ggctctacca ctgctttcct gtctgatctg 120
aacgagttac ctaacctctc cgagcttatc tacaaaagct gaatgatcct tccctcatag 180
agctattgag agaataagga gatggnngga ggtcacacca tccccaaactt accaagggat 240
cttcctctga cagagactga gcaagatcca gctgggtctga gctgtgtgga tctcncctcc 300
agctgtgcac ctatntnnta accagacacg tcctccagcc cccaagatat acccaggaat 360
tcgaaaggta aantgaaagt cacaacttcc cagcagctcn caatcaagca cagcaaacac 420
gctgctcccc agcacctcct gcagtccagc cccaccctcc ttgctgctgc gcttagagna 480
gcagcctgag accagacctc caggtctctt tcatccaacc cacctgcctg gcacctcctg 540
ggttgggggt ctgctatagt cttcaggaag aaagacctgc cactgacata ctgtggga 598

```

<210> 68
 <211> 382
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Amplicon 2.14

<220>
 <221> misc_feature
 <222> 48
 <223> n = T or C

<220>
 <221> misc_feature
 <222> 154
 <223> n = A or G

```
<400> 68
tgagaggac atcctcaagc ccagcagagg gggctgcctg gaggaggngt gcctgccaga 60
gaaaactagc ccggggagat ctgggtggca tcaccggggt gcccgaagga ggtaacccca 120
tgagaggttac ctgggcaatt cagccacacg cacnaatctc ttccaggctt catcgctagt 180
cagcaggatt ttcagatgca ctgggctaac tttcttctgg aagtattcaa tgacttcttc 240
agtgaagcgt ttcttttcta gttggaaaca aaaaggataa gattggaaga aagtttgcta 300
ccacataaat ggcattgagt ataagggtgg tccgtgttaa tcctcctgaa ccagctgtca 360
catggggtat ttttgatgga gg                                     382
```

<210> 69
 <211> 398
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Amplicon 2.15

<220>
 <221> misc_feature
 <222> 205
 <223> n = C or G

<220>
 <221> misc_feature
 <222> 277
 <223> n = T or A

<220>
 <221> misc_feature
 <222> 304
 <223> n = T or C

```
<400> 69
cccttctcgc agctgattac ggtcacgtcg atcccgtctt tccagtctcc acgagacgga 60
gcccgggaaa agagtgcacc ccattgctctg ccgccccgcg accccacccc tcgggaatcc 120
ccaccgtctt tcccaatcac cttcttcttc tcaaggcctc ccacgctccc acgttgagga 180
gccgactagg gccgcgcgta caggnagctc cacttcctcc cgcacgtgcc ctgccaagga 240
ccccgaggac cctccccacc ccacgctgtc tgtttgngcg ggctgcccga tgagatgcct 300
gtanaagtc agggaaagat ggggatttcc tcctcaagat ttaaaactat agtctgaaaa 360
aatcactga gaacactctt tccagatctt tcccgtctc                                     398
```

<210> 70
 <211> 398
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Amplicon 2.16

<220>

<221> misc_feature

<222> 117

<223> n = C or G

<400> 70

```
ccactcttgt tcttgggcat cagctggttg cctggctgtg ttagtgacct agcccacaac 60
agccccctac tctaccctgg ctacatgcag tgcccatctc tggggtcact gcagagnaga 120
cctggctaata gccaccctct cttccggctg cctttcagga agaccatgct caatgacctc 180
ctgcggttcg atgtgaaaga ctgctcctgg tgcaggtggg tggccccgtg ctccagggcc 240
ctgcctttcc tctagaaca cagtggcaca gtgctgggtc ccagttgcta gcagagtctc 300
tctcatcatg ggaagctaga aagaagcttc caggaggaga taaccacggc ctcagggatg 360
ccacatccag agccgccctg tcaggctgag gagatcaa 398
```

<210> 71

<211> 380

<212> DNA

<213> Artificial Sequence

<220>

<223> Amplicon 2.17

<220>

<221> misc_feature

<222> 37

<223> n = A or C

<220>

<221> misc_feature

<222> 329

<223> n = C or T

<220>

<221> misc_feature

<222> 350

<223> n = A or G

<400> 71

```
tgaatcctca tctggggaag tttcaagaat aaaagcngtc ccatctcagc agtctcgagt 60
gtggtgaaat gtgagcgggc cctgtgaggc cggggctgag ctgtcctctc cccctgcagg 120
tggcccagag tggcgagatc ccccatctt gctgcaactt ccccgaggct gtgtgccggg 180
acaagatgtt tgtattctct gggcaaagcg gagccaaaat aaccaacaac ctcttccagt 240
ttgaattcaa ggacaagacg tgagtactct ggccagtggg gtggagggag gacggtcagt 300
tccctcgaat ccttctgaat atgaagaang cctcttgac cttggtggcn tggtaaccat 360
ccttgtgagc tctgcaaaca 380
```

<210> 72

<211> 698

<212> DNA

<213> Artificial Sequence

<220>

<223> Amplicon 2.18

<220>

<221> misc_feature

<222> 653

<223> n = C or T

<400> 72

```
cagaagcatg gaattgctga caagcacaga gcttggcgtg gggttggagg ttgcatcagt 60
ctcctgcggg tgctgtagcg aagggctgca aactgggtgg tttggagcag cagacaggta 120
ctcacagctt tgagggccaa gaggcccatc taaggtgtca gcaagggcag tgccctcaga 180
```

```

gcctcagggg tgggtccttc ctgcctcttc caatttctgg tgggtgccag agttccttga 240
agtcccttgg ctgcagctg tatcactctg ccttgggtctt tacctgccgc cttccctcgg 300
catctgtgtc ttcacacggc cctcttgtaa ggacaccagt cattgcgtta gggcccaccc 360
taatcccgta tgacctcctc taaacttatt acctctgcaa agaccctatt tccaaaaaag 420
gtcacattcc cagtgtctggc agttaggacc tcagtgtatc tttgcgggga cacagttcaa 480
cctgttacct atccatcatt ttgtattctg agatcttttt ttctgttttt agctatgtga 540
aaggcatcta ctcttttggc ttgatggaaa ccaacttcta cgaccaggca gaaaaactcg 600
ccaaagaggt aagtgggtcc ttcctaaggt gcctgacccc tcaggaggta gcngttggct 660
ggaccagggc atatgagggg caccattcgt gtgtgacc 698

```

```

<210> 73
<211> 698
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> Amplicon 2.19

```

```

<220>
<221> misc_feature
<222> 257
<223> n = A or G

```

```

<400> 73
gggggttgtc ttttgcatag agaccatgac caggctctggg acagaggaaa gtcaaataaa 60
tcacacatta gagttagaag cagaggctca ggctgagccc aggtttatta tccaaaatca 120
aaatgaaatg cagtgtattaa aggacacaag gcctcagtggt gcatcattct cattgtggct 180
ttcaggcggc tgtggaagac aggggtgggga tgggtggcttc gggagggtgag gtgctctggg 240
acttgggcaa gtcttangca agccattcct gctttctggg cctggctccc atgggccatt 300
agaaatgaaa atgctttgtg gactgctgag gacgggtgcaa ggggtgaggtt tcccagctca 360
ccgatcatg gccagcacc agggcatcag cttctgcttt atgggtgggg ctgcagggtg 420
gaagtccttg gccttcagaa tgacctcatg ggcctcctgg aagaggctct ccccccactgc 480
tgccctccac cgctgccgc atgtggccag cttgggtcgg ccttcgaaga cttggcagcc 540
agcaccacg ggctgtgggg aaaagggtac agactgggga tggatgggtg tgagggcagg 600
gatgggcagc atctgatttg gggaccacag atctccagga ggtgtttgca cacacactta 660
agcacagtgc catagcccgg tgtggcagca taagcagg 698

```

```

<210> 74
<211> 395
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> Amplicon 2.20

```

```

<220>
<221> misc_feature
<222> 98
<223> n = C or G

```

```

<220>
<221> misc_feature
<222> 114
<223> n = G or A

```

```

<400> 74
ctcctctgtc cctcctcaga ccctcctcc tcctcccaca cgcccactgt aaagggctcc 60
tgcgtcagga gctgccaggc cgagggccag ggcaccnga ggacagctgc tccngcagca 120
ctcaccgat gcatgtcttc atacttgaga aaaagcacgt tcgagtccat gcggtgctcc 180
cagaactcct gcacgtgctc aaaccaggag ccgtagccca ctgcggagac aggggacagg 240
gtgagccaca cggtgggca ggagaagcgc acacatgggg ccatccccac cccacagggc 300
tgccctctg ccacccagca gccgtgatga ggacatcgtg atccctgcgg acaagtctgg 360
caaaggcccc cgaggcactc acgtcttgag ccac 395

```

```

<210> 75

```


<211> 383
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Amplicon 2.21

<220>
 <221> misc_feature
 <222> 21
 <223> n = C or T

<220>
 <221> misc_feature
 <222> 61
 <223> n = A or G

<220>
 <221> misc_feature
 <222> 83, 84, 85, 86
 <223> n = C or deletion

<400> 75
 ctggactgga ggccaaagtc ntgcggggaa cgtgcgggaa gagcagagcg tgcaggcagc 60
 ngagactaac aagaagccct ggnnnnagag ggcaggaaca ggtggacgaa caaccagatg 120
 agagaacgta ccaggcatgc aagctagacc caggaatcaa cgggctgagg cttagcgtcc 180
 cctacggcgt ccaccagcct gaccgcgggc ctgctgggccc cgggggggagg ggccttcctg 240
 ctgggggtcga gctgcagcgc acgggtgggc attagaggca caatagagca ggtaggttag 300
 agtcctctggg gggacagggc aggggcaggc ccgaggctgg cgatgtaagg gttggcctgc 360
 caggacagca caggtagcac caa 383

<210> 76
 <211> 385
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Amplicon 2.22

<400> 76
 tgaatagtgc gttgcaggtc catgcacttg tcagtttgtt catttctctgg aggcttctag 60
 ccctgggtgt ccatggccct tgcagatact tgctgggtcag gaatgagcct tctgaggcaa 120
 gactgctgga ttgtccaggc agggctattg atgccagccc cttaacttaa ttctgcccag 180
 acaagaagat gtttgagggtg aagcggcggg agcagctgtt ggcactgaag aacctggcac 240
 agctgaacga catccaccag cagtacaaga tccttgatgt catgctcaag gggctcttta 300
 aggtgtgtgc aggcaggggg cagctcatgg cagggtccagt ctttgatcta ggcactgatg 360
 ggtaaacagg agttccctaa cgggt 385

<210> 77
 <211> 357
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Amplicon 2.23

<400> 77
 acaggagtgc cctaacgggt tgggtgttcag ggacagggga actgcgcaca cgtaagactt 60
 gaagtggggt ttaataaat ggggatggga gcagtctgtg atgggactg cgaagccact 120
 cagccctggc gggattccct cagggtgctgg aggactcccg gacagtgtc accgctgtg 180
 atgtgctccc agatggggccc ttccccagg acgagaagct gaaggatggg atggtctgcc 240
 ctgccccgcc ctgtcctccg caccaccga tcttctctag ctgctccttc tctcctgttc 300
 ttgtcactct ttttttctcc ccggaagtgc cctcttgtgg caccttctaa gtggtcc 357

<210> 78

<211> 355
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Amplicon 2.24

<220>
 <221> misc_feature
 <222> 183, 256, 284, 327
 <223> n = C or T

<400> 78
 gcagagatca gagcatcgaa taatgggttc taaaatatct tggaaaagga aacagtccta 60
 tccagatgaa atgtgttcat accgtagaca tgacagagac cagctcttgt tcagtgtccc 120
 ctacctgctg gctgttccct cggctcctcg aacagatcag ccgagcttat ggaggaactt 180
 gcngacagcc tctctaggcg ggccctggtc tcatactaga gaagacaagg aaaaggaaat 240
 gttaggctcc aaagantgtg ggcagttttg caaaaagaat cacngaagag ctgtcatttg 300
 aaagtgtttg acccccaggc tctttcnttc caacagttac tgaatgccac tgcca 355

<210> 79
 <211> 399
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Amplicon 2.25

<220>
 <221> misc_feature
 <222> 279
 <223> n = A or G

<400> 79
 ccttagaagc ctggaactct tgttaaatag gtagctatct gtatgaacag gaaactgagt 60
 cagcttatta ggaaatgata agattctgca gaagaacata ttgtatagtt ttccgtagaa 120
 agaggagagg cttaatctct ttttgttttg aacttagatc aaattactca ttaaacaaga 180
 tgatgacctt gaagttcccg cctatgaaga catcttcagg gatgaagagg aggatgaaga 240
 gcattcagga aatgacagtg atgggtcaga gccttctgng aagcgcacac ggtagaaga 300
 ggtgagtttg ggtctctcac agctatccca gaggaacttg cactcccaga ggtcggaggt 360
 catcctgaag cctgccaggc caagggtgtac tgagggcag 399

<210> 80
 <211> 379
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Amplicon 2.26

<220>
 <221> misc_feature
 <222> 44
 <223> n = C or T

<400> 80
 ttccacctcc cttgttggtc tccttgcccc ctgcctggct cccntctgcc tcttagagct 60
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 gcaaggagcg ggtgtgaatg ctccacggcc ccttagctac ctgtgacacc ttgtgcccac 180
 aggttccgta gtaagatgga agctgctggc ttactatct cgggagccag tcaccccatc 240
 tgccctgtga tgctgggtga tgcccggctg gcctctcgca tggcggatga catgctgaag 300
 agaggtaagg gtgctgagac aagggaactg gtgggtgggtc ctgagagaag agaaagggaa 360
 acccctagac tgtgacca 379

<210> 81

<211> 398
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Amplicon 2.27

<220>
 <221> misc_feature
 <222> 346
 <223> n = C or G

<400> 81
 gccagcatta aataaaagag ccaggaatta aaatttttagt gtcctaatagc ctctacataa 60
 tttgccgtat tttcctttca tggccttagct ataggaaatt taccctctgg gctctctcat 120
 gctcttctcg agccttctta actcgttcta ttctttcttt gatctctcgc tcttcacggt 180
 ttcgctcata ctttctccga tgttctgcaa ttttctgtgc ctagaaaaaa gagccatagc 240
 aaaataagct tgctccaaaa gctgaataac atcaacacaa atattctttg tagagagatg 300
 ttttaattcaa catgcagttc agaaaaatga cagatttgtc ttgtanaaaa agacctaaca 360
 caagctaagc ctttaagaaa accaacctca actgcatg 398

<210> 82
 <211> 371
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Amplicon 2.28

<221> misc_feature
 <222> 291
 <223> n = A or G

<400> 82
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 gcatgctctg cacagtaagt aagtgtgtgt ccaggcacag aacgccccag agaaggccca 120
 gagggcgggc cattccccga gagagcttca gtacctgtcc tgaagctgga cacgggtggc 180
 ccagttcaag gatttcacgt gattttgaac agcttctgcc atcttctcc tgtgaagata 240
 cgaaacaaaa tgtaaaatcc acaacacagg tgtagctgc agggcctcac natggactat 300
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 aaacgtgaca t 371

<210> 83
 <211> 395
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Amplicon 2.29

<220>
 <221> misc_feature
 <222> 260
 <223> n = C or G

<400> 83
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 cctagcagag gccttggtg gcattgggcaa ttggaggcct tgccctgggc cagtgtggtc 120
 cccgccatgc gtccccattc cgcattcactc ggtctctccc acagggatga cggaacacac 180
 caagaacctc ctacgggcct tttatgagct gtcgcagact caccggggta atggcatccc 240
 ccaaagctgt ggtgtgaccn tgggcaatcc ctggggcctc tcaactcccat gctgaggtgg 300
 gtcagaccca cagcgctga cctcaggctc cctctgggct gggcctggtc ccaggtgctg 360
 ggatttgcca tgggcctgcg gggaacatct agatc 395

<210> 84

<211> 328
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Amplicon 2.30

<220>
 <221> misc_feature
 <222> 257
 <223> n = C or T

<400> 84
 atctcacc cc tggatttt cc caggccag gc tgtgcacca aaaactgg gg ctgcaggg aa 60
 ggggtgg tttc cgcacccct g ctcacctgg g gtcacacct ca aagagata ct ggatcccct g 120
 gccatgg tgc acatcccag t ccacgacg ag gatcctgg gt acagacag cg ctgggtgg caa 180
 aggggcag gg cctcccac ct ccaggagc cc ggccaggg at gggaagg tgc tggctggg tt 240
 ctctcgcc tc ctgcgcng cc ccttgctg tg tggcctgg gg ccaccccc ct gcagccag cc 300
 tggcacac ac ctgtgtag cc cgtgtttc 328

<210> 85
 <211> 483
 <212> DNA
 <213> Mycobacterium chelonae

<400> 85
 acgggtg agt aacacgtgg g tgatctgccc tgcactct gg gataagcc tg ggaaactgg g 60
 tctaata ccg gataggacca cacacttcat ggtgagtg gt gcaaagct tt tgcggtgt gg 120
 gatgagcc cg cggcctat ca gcttgttgg t ggggtaat gg ccaccaag g cgacgacgg g 180
 tagccggc ct gagaggg tga ccggccacac tgggactg ag atacggccc a gactcctac g 240
 ggaggcag ca gtggggaa ta ttgcacaat g ggcgcaag cc tgatgcag cg acgccgcg tg 300
 agggatgac g gccttcggg t tgtaaacctc tttcagtag g gacgaagc ga aagtgacgg t 360
 acctacaga a gaaggacc gg ccaactac gt gccagcag cc gcggaata c gtaggggt ccg 420
 agcgttgt cc ggaattact g ggcgtaaa ga gctcgtag gt ggtttgtc gc gttgttcg tg 480
 aaa 483